

# DRAFT

## APPENDIX D

### SOURCE CODE MODULE SUMMARY

#### Description and Definitions in ESAMS Comparison Chart

Table D-1 on the following pages contains the results of a comparison of file changes between ESAMS 2.6.3 and ESAMS 2.7b and changes between ESAMS 2.7b and ESAMS 2.7.

- Columns 1 - 3      A list of all filenames in each ESAMS release. A blank indicates no corresponding file exists in that version. Either the file was combined with a similar file or replaced with a new name. Note that only one file (prepro.f) contains 18 internal subroutines.
- Column 4      An asterisk indicates that this file was evaluated on a software quality analysis work sheet that is in Appendix E. One hundred files were evaluated. An X indicates the second hundred files that were evaluated and listed in Appendix F
- Columns 5 - 8      Differences were run between each corresponding file in ESAMS 2.6.3 and ESAMS 2.7b. The results are reported in these columns. A major change, which may be one line or the entire routine, noted by a "C" in column 5, is a code change that will alter the results on execution from the previous version. A minor change, noted by a "C" in column 6, is a code change usually to improve readability, such as breaking up a large equation into a smaller, easy to read format. Upon execution of this module the results should be the same as the previous version. An "N" in column 7 indicates the both routines are identical. A "C" in column 8 indicates that the comments have changed.
- Column 9      A dividing double line that separates the two comparisons.
- Column 10 - 13      Differences were run between each corresponding file in ESAMS 2.7b and ESAMS 2.7. The results are reported in these columns. Every file in ESAMS 2.7 has been modified top and bottom with a classification of either UNCLASSIFIED or SECRET/NOFORN depending on the content. This has been indicated in column 13.

TABLE D-1. Source Code Module Summary.

esams2.6.3	esams2.7b	esams2.7		code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
				major	minor	none	comnt	major	minor	comnt	unclas/secret
ablast.f	ablast.f	ablast.f	X			N					U
accel.f	accel.f	accel.f	*	C			C				U
acquir.f	acquir.f	acquir.f					C				U

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
ademod.f	ademod.f	ademod.f	x			N				U
ae2phi.f	ae2phi.f	ae2phi.f		C			C			U
aero.f	aero.f	aero.f	*	C			C			S
	aero19.f	aero19.f	x							S
aero8.f	aero8.f	aero8.f	x			N				S
aeroa.f	aeroa.f	aeroa.f				N				S
aerob.f	aerob.f	aerob.f	*			N				S
aeroc.f	aeroc.f	aeroc.f				N				S
aerod.f	aerod.f	aerod.f				N				S
aerody.f	aerody.f	aerody.f		C			C			S
aerog.f	aerog.f	aerog.f				N				S
aeroih.f										
aeroj.f	aeroj.f	aeroj.f				N				S
aerok.f	aerok.f	aerok.f				N				S
	aeron1.f	aeron1.f	x							S
aeron3.f	aeron3.f	aeron3.f				N				S
aeron4.f	aeron4.f	aeron4.f			C		C			S
aeron6.f	aeron6.f	aeron6.f				N				S
aeron7.f	aeron7.f	aeron7.f				N				S
	aeronc.f	aeronc.f	x							U
aerop.f	aerop.f	aerop.f		C			C			S
aerow.f	aerow.f	aerow.f		C			C			S
aeroy.f	aeroy.f	aeroy.f			C		C			S
afil2a.f	afil2a.f	afil2a.f		C			C			S
afil2e.f	afil2e.f	afil2e.f		C			C			S
afmant.f	afmant.f	afmant.f	*			N				U
afmarm.f	afmarm.f	afmarm.f				N				U
afmdop.f	afmdop.f	afmdop.f		C			C			U
afmenv.f	afmenv.f	afmenv.f				N				U
afmexc.f	afmexc.f	afmexc.f		C						U
afmfnd.f	afmfnd.f	afmfnd.f		C			C			U
	afmgan.f	afmgan.f	x						C	U
afmgrt.f	afmgrt.f	afmgrt.f				N				U
afmini.f	afmini.f	afmini.f				N				U
afmmix.f	afmmix.f	afmmix.f				N				U
	afmopt.f	afmopt.f	x							U
afmphs.f	afmphs.f	afmphs.f				N				U
afmpos.f	afmpos.f	afmpos.f				N				U
afmrc2.f	afmrc2.f	afmrc2.f	*		C		C			U
afmrc3.f	afmrc3.f	afmrc3.f	*		C		C			U
afmrcf.f	afmrcf.f	afmrcf.f	x		C					U
afmrcs.f	afmrcs.f	afmrcs.f	*	C			C			U
afmrel.f	afmrel.f	afmrel.f				N				U
	afmset.f	afmset.f	x							U
afmvel.f										

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**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
afmvlt.f	afmvlt.f	afmvlt.f	C			C				U
afmxxx.f	afmxxx.f	afmxxx.f	x			C				U
agcang.f	agcang.f	agcang.f			N					U
agcflt.f										
agcrn2.f	agcrn2.f	agcrn2.f	*			N				U
agcrng.f	agcrng.f	agcrng.f			N					U
aghf.f	aghf.f	aghf.f			N					U
aghkf.f	aghkf.f	aghkf.f			N					U
aghki.f	aghki.f	aghki.f			N					U
aim10.f	aim10.f	aim10.f	x							S
aim11.f	aim11.f	aim11.f	x							S
aim13.f	aim13.f	aim13.f	x							S
aim3.f	aim3.f	aim3.f	x							S
aim311.f	aim311.f	aim311.f	x							S
aim6.f	aim6.f	aim6.f	x							S
aim8.f	aim8.f	aim8.f	x							S
aim9.f	aim9.f	aim9.f	x							S
aimopt.f	aimopt.f									S
aimpt.f	aimpt.f	aimpt.f		C		C				S
am4c.f	am4c.f	am4c.f			N					U
amdet.a	amdet.a	amdet.a			N					S
amdet.e	amdet.e	amdet.e			N					S
amdetr.f	amdetr.f	amdetr.f		C		C				S
amloga.f	amloga.f	amloga.f			N					S
amloge.f	amloge.f	amloge.f			N					S
angdif.f	angdif.f	angdif.f			N					U
angleg.f	angleg.f	angleg.f			N					S
angles.f	angles.f	angles.f			N					U
angsvo.f	angsvo.f	angsvo.f	x		N					S
angtrk.f	angtrk.f	angtrk.f	*	C		C				U
angtrn.f	angtrn.f	angtrn.f			N					U
angwdt.f	angwdt.f	angwdt.f	*		N					U
antang.f	antang.f	antang.f	*		N					U
	antgan.f	antgan.f								U
antpoi.f	antpoi.f	antpoi.f			N					U
antrk2.f	antrk2.f	antrk2.f	*	C		C				U
anyviz.f	anyviz.f	anyviz.f			N		C			U
argpoa.f	argpoa.f	argpoa.f	x		N					U
arngtb.f	arngtb.f	arngtb.f			N					S
arsin.f	arsin.f	arsin.f			N					U
aspect.f	aspect.f	aspect.f			N					U
atan3.f	atan3.f	atan3.f			N					U
atjbor.f	atjbor.f	atjbor.f			N					S
atjcon.f	atjcon.f	atjcon.f		C		C				S
atjdgp.f	atjdgp.f	atjdgp.f			N					S

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
atjfrc.f	atjfrc.f	atjfrc.f			N					S
atji.f	atji.f	atji.f	x		N					S
atjmpi.f	atjmpi.f	atjmpi.f			N					S
atjref.f	atjref.f	atjref.f		C			C			S
atjrsc.f	atjrsc.f	atjrsc.f			N					S
atjsdc.f	atjsdc.f	atjsdc.f			N					S
atjsig.f	atjsig.f	atjsig.f			N					S
atmos.f	atmos.f	atmos.f	*		N					U
atnamp.f	atnamp.f	atnamp.f			N					U
autop.f	autop.f	autop.f	*	C			C			S
avgpoa.f	avgpoa.f	avgpoa.f	x		C					U
azel.f	azel.f	azel.f	*		C			C		U
b2skr.f	b2skr.f	b2skr.f			N					U
bemant.f	bemant.f	bemant.f	x	C			C			U
bemchf.f										
bemexc.f	bemexc.f	bemexc.f	*	C			C			U
bemfdg.f	bemfdg.f	bemfdg.f			N					U
bemfv1.f	bemfv1.f	bemfv1.f	*	C			C			U
bemgrm.f	bemgrm.f	bemgrm.f	*	C			C			U
bemnz.f	bemnz.f	bemnz.f	*		C		C			U
bemout.f	bemout.f	bemout.f	*	C						U
bemsen.f	bemsen.f	bemsen.f	x	C			C			U
bemset.f	bemset.f	bemset.f			C					U
bemsvl.f	bemsvl.f	bemsvl.f	x	C			C			U
bemtv1.f	bemtv1.f	bemtv1.f		C			C			U
bisrh1.f	bisrh1.f	bisrh1.f			C					U
bkill.f	bkill.f	bkill.f			N					U
bshad.f	bshad.f	bshad.f	*		N					U
	burst.f	burst.f	x							S
bxieul.f	bxieul.f	bxieul.f			N					U
cdhawk.f										
chafci.f	chafci.f	chafci.f		C						S
chaffi.f	chaffi.f	chaffi.f		C			C			S
chafri.f										
change.f	change.f	change.f	x		N					U
	chdplr.f	chdplr.f								S
cheby.f	cheby.f	cheby.f			N					U
chfcld.f	chfcld.f	chfcld.f		C			C			S
	chfexc.f	chfexc.f								S
	chffuz.f	chffuz.f								S
	chfrcs.f	chfrcs.f								S
chfrkt										
	chfsig.f	chfsig.f								S
chhawk.f										
chidrw.f	chidrw.f	chidrw.f	*		C					U

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**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
	chkshl.f	chkshl.f								S
circ.f	circ.f	circ.f			N					U
cktlu2.f	cktlu2.f	cktlu2.f			N					U
	cldrcs.f	cldrcs.f								S
	cldsiz.f	cldsiz.f								S
clearc.f	clearc.f	clearc.f	x		N					U
cleari.f	cleari.f	cleari.f			N					U
clearr.f	clearr.f	clearr.f			N					U
clrflg.f	clrflg.f	clrflg.f			N					U
clrsim.f	clrsim.f	clrsim.f		C						U
clurej.f	clurej.f	clurej.f	x		N					U
clutin.f	clutin.f	clutin.f	*			C				U
cluttr.f	cluttr.f	cluttr.f	*	C		C	C		C	U
compos.f	compos.f	compos.f			N					U
constx.f	constx.f	constx.f		C		C				U
consys.f	consys.f	consys.f	*	C		C				S
copycf.f	copycf.f	copycf.f		C		C				U
corel8.f	corel8.f	corel8.f	*		N					U
cross.f	cross.f	cross.f			N					U
csweep.f	csweep.f	csweep.f	*	C						U
	ctoff.f	ctoff.f	x							S
cvtira.f	cvtira.f	cvtira.f			N					U
	cwbrst.f	cwbrst.f	x							U
	cwsync.f	cwsync.f	x							U
dcom.f	dcom.f	dcom.f			N					U
dcomnt.f	dcomnt.f	dcomnt.f		C		C				U
dcyeq.f	dcyeq.f	dcyeq.f	*	C		C				S
decode.f	decode.f	decode.f	x	C		C				U
demod2.f	demod2.f	demod2.f	*	C		C				U
detgeo.f	detgeo.f	detgeo.f	*	C		C				U
detiri.f	detiri.f	detiri.f		C						U
dggchk.f	dggchk.f	dggchk.f			N					U
dghf.f	dghf.f	dghf.f			N					U
dghkf.f	dghkf.f	dghkf.f			N					U
dghki.f	dghki.f	dghki.f			N					U
difsum.f	difsum.f	difsum.f	*		N					U
dopclt.f	dopclt.f	dopclt.f			N					S
dopdsc.f	dopdsc.f	dopdsc.f			N					S
dopfil.f	dopfil.f	dopfil.f			N		C			S
dopgrd.f	dopgrd.f	dopgrd.f		C			C			S
	dopntc.f	dopntc.f	x				C			S
doptra.f	doptra.f	doptra.f			N					S
doprtrb.f	doprtrb.f	doprtrb.f			N					S
doptrk.f	doptrk.f	doptrk.f			N					S
dphase.f	dphase.f	dphase.f			N					S

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
drag.f	drag.f	drag.f	*		C		C			S
drve.f	drve.f	drve.f				N				S
	drv19.f	drv19.f	x							S
drv8.f	drv8.f	drv8.f			C		C			S
drvga.f	drvga.f	drvga.f				N				S
drvgb.f	drvgb.f	drvgb.f	*			N				S
drvgc.f	drvgc.f	drvgc.f			C					S
drvgd.f	drvgd.f	drvgd.f		C			C			S
drvgg.f										
drvgga.f										
drvggb.f										
drvgh.f										
drvgi.f	drvgi.f	drvgi.f					C			S
drvdk.f	drvdk.f	drvdk.f		C			C			S
	drvgn1.f	drvgn1.f	x							S
drvgn3.f	drvgn3.f	drvgn3.f				N		C		S
drvgn3a.f										
drvgn4.f	drvgn4.f	drvgn4.f		C			C	C		S
drvgn6.f	drvgn6.f	drvgn6.f			C					S
drvgn7.f	drvgn7.f	drvgn7.f		C			C			S
drvgp.f	drvgp.f	drvgp.f		C			C			S
drvgw.f	drvgw.f	drvgw.f		C			C			S
drvgy.f	drvgy.f	drvgy.f		C			C	C		S
drwlgn.f	drwlgn.f	drwlgn.f	*		C					U
dscrim.f	dscrim.f	dscrim.f				N				U
dstate.f	dstate.f	dstate.f		C			C			S
dvonof.f	dvonof.f	dvonof.f		C			C			U
ecmini.f	ecmini.f	ecmini.f		C			C			U
eghf.f	eghf.f	eghf.f				N				U
eghkf.f	eghkf.f	eghkf.f	x			N				U
eghki.f	eghki.f	eghki.f				N				U
elevon.f										
elmask.f	elmask.f	elmask.f	*			N				U
emrcs.f										
ender.f	ender.f	ender.f		C			C			U
endgm.f	endgm.f	endgm.f	x		C					U
error.f	error.f	error.f					C			U
eulbxi.f	eulbxi.f	eulbxi.f				N				U
euldrv.f	euldrv.f	euldrv.f		C						U
eulrm.f	eulrm.f	eulrm.f				N				U
evalcl.f	evalcl.f	evalcl.f	*			N				U
exp2.f	exp2.f	exp2.f				N				U
expdrw.f	expdrw.f	expdrw.f	*		C					U
facet.f	facet.f	facet.f	*		C				C	U
facin.f	facin.f	facin.f	*				C			U

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**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
fdot.f	fdot.f	fdot.f		C			C			U
fend.f	fend.f	fend.f	*	C			C			U
fendi.f	fendi.f	fendi.f	*		C		C			U
fgsoln.f	fgsoln.f	fgsoln.f				N				U
find.f	find.f	find.f	x			N				U
findf.f	findf.f	findf.f			C					U
fireok.f	fireok.f	fireok.f		C			C			U
f11p.f										
f11z1p.f										
f11z2p.f										
f12p.f										
f12z2p.f										
fld1p.f										
flddp.f										
fldyn.f										
flydcy.f	flydcy.f	flydcy.f	x	C			C			U
fm.f	fm.f	fm.f				N				U
fndfmt.f	fndfmt.f	fndfmt.f				N				U
	fndpri.f	fndpri.f								U
	fndslt.f	fndslt.f								U
fr.f	fr.f	fr.f		C						U
	fragpk.f	fragpk.f	x							U
	frqdsc.f	frqdsc.f	x					C		S
fshad.f	fshad.f	fshad.f	*			N				U
fsoln.f	fsoln.f	fsoln.f				N				U
ftacq.f	ftacq.f	ftacq.f			C		C			U
func.a.f	func.a.f	func.a.f				N				U
fuzang.f	fuzang.f	fuzang.f	x	C			C			U
fuzeck.f	fuzeck.f	fuzeck.f	x		C		C			U
fuzing.f	fuzing.f	fuzing.f		C			C			U
gains.f	gains.f	gains.f	*			N				U
gamdrw.f	gamdrw.f	gamdrw.f	*		C					U
	gap19.f	gap19.f								S
gap8.f	gap8.f	gap8.f				N				S
gapa.f	gapa.f	gapa.f				N				S
gapb.f	gapb.f	gapb.f	*			N				S
gapc.f	gapc.f	gapc.f		C						S
gapd.f	gapd.f	gapd.f				N				S
gape.f	gape.f	gape.f			C					S
gapf.f	gapf.f	gapf.f				N				S
gapg.f										
gapih.f										
gapj.f	gapj.f	gapj.f	x			N				S
gapk.f	gapk.f	gapk.f	x			N				S
gapl.f	gapl.f	gapl.f		C						S

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
	gapn1.f	gapn1.f								S
gapn3.f	gapn3.f	gapn3.f			N					S
gapn3a.f										
gapn4.f	gapn4.f	gapn4.f	C							S
gapn6.f	gapn6.f	gapn6.f			N					S
gapn7.f	gapn7.f	gapn7.f			N					S
gapp.f	gapp.f	gapp.f	C			C				S
gapw.f	gapw.f	gapw.f	x		N					S
gapy.f	gapy.f	gapy.f	C			C				S
gauss.f	gauss.f	gauss.f		C						U
genexc.f	genexc.f	genexc.f	C			C	C		C	U
geodcy.f	geodcy.f	geodcy.f	C			C				S
getalt.f	getalt.f	getalt.f			N					U
getrcs.f	getrcs.f	getrcs.f	*		N					U
getttd.f	getttd.f	getttd.f	*	C						U
getwob.f	getwob.f	getwob.f			N					U
gh.f	gh.f	gh.f			N					U
ghk.f	ghk.f	ghk.f			N					U
glint.f	glint.f	glint.f	*		N					U
gmbgmt.f	gmbgmt.f	gmbgmt.f			N					U
goira.f	goira.f	goira.f	C							U
gorun.f	gorun.f	gorun.f	C			C				U
grami.f	grami.f	grami.f	C			C				U
grcmlt.f	grcmlt.f	grcmlt.f	*	C						U
grdchk.f	grdchk.f	grdchk.f			N					U
grdgde.f	grdgde.f	grdgde.f			N					S
grdsvo.f	grdsvo.f	grdsvo.f			N					S
grdviz.f	grdviz.f	grdviz.f				C				U
gtcf11.f	gtcf11.f	gtcf11.f			N					U
gtcf12.f	gtcf12.f	gtcf12.f			N					U
gtcf1p.f	gtcf1p.f	gtcf1p.f			N					U
gtcf2p.f	gtcf2p.f	gtcf2p.f			N					U
gtrefl.f	gtrefl.f	gtrefl.f	C			C				U
	gundon.f	gundon.f	x							U
	gunsel.f	gunsel.f								U
gyrate.f	gyrate.f	gyrate.f	*		N					U
hb.f	hb.f	hb.f	x		N					S
	hb1.f	hb1.f	x							S
hdrd.f	hdrd.f	hdrd.f			N					U
heapin.f	heapin.f	heapin.f			N					U
heapsr.f	heapsr.f	heapsr.f			N					U
heapst.f	heapst.f	heapst.f			N					U
hipass.f	hipass.f	hipass.f			N					S
hlimit.f	hlimit.f	hlimit.f			N		C			U
	hojchk.f	hojchk.f					C			S

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**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
hwkapi.f										
hwkgdi.f										
	illchf.f	illchf.f	x							S
illum.f	illum.f	illum.f	x			N				U
iniagc.f										
iniaz.f	iniaz.f	iniaz.f				N				S
iniaza.f	iniaza.f	iniaza.f				N				S
iniazb.f	iniazb.f	iniazb.f				N				S
iniazc.f	iniazc.f	iniazc.f				N				S
iniclt.f	iniclt.f	iniclt.f		C			C			U
inidcy.f	inidcy.f	inidcy.f		C			C			S
inidet.f	inidet.f	inidet.f	x			N				U
inidm2.f	inidm2.f	inidm2.f	x			N				U
inidta.f	inidta.f	inidta.f				N				S
inidtb.f	inidtb.f	inidtb.f				N				S
iniel.f	iniel.f	iniel.f	x			N				S
iniela.f	iniela.f	iniela.f	x			N				S
inielb.f	inielb.f	inielb.f				N				S
inielc.f	inielc.f	inielc.f				N				S
inifdt.f	inifdt.f	inifdt.f				N				U
iniflt.f	iniflt.f	iniflt.f		C			C			U
	inigun.f	inigun.f								U
inirga.f	inirga.f	inirga.f			C					S
inirsa.f	inirsa.f	inirsa.f			C					S
inisdc.f	inisdc.f	inisdc.f		C						S
initag.f	initag.f	initag.f	x	C			C			U
initcf.f	initcf.f	initcf.f		C			C		C	U
initdg.f	initdg.f	initdg.f				N				U
initrg.f	initrg.f	initrg.f		C						U
input.f	input.f	input.f		C						U
intang.f	intang.f	intang.f				N				U
integc.f	integc.f	integc.f		C				C		U
intgrt.f	intgrt.f	intgrt.f	*			N				U
ipdata.f	ipdata.f	ipdata.f		C			C			U
ipovly.f	ipovly.f	ipovly.f		C			C			U
iprdin.f	iprdin.f	iprdin.f		C			C			U
ipreqd.f	ipreqd.f	ipreqd.f		C						U
iragc.f	iragc.f	iragc.f				N				U
irbak.f	irbak.f	irbak.f				N				S
irdcy.f	irdcy.f	irdcy.f		C						S
irexe.f	irexe.f	irexe.f				N				S
irsnr.f	irsnr.f	irsnr.f		C			C			U
irtar.f	irtar.f	irtar.f			C					S
	jamgan.f	jamgan.f								S
jemevl.f	jemevl.f	jemevl.f	*			N				S

# DRAFT

TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
jemexc.f	jemexc.f	jemexc.f	*			N				S
	kd.f	kd.f								S
laguer.f	laguer.f	laguer.f	x	C			C			U
	lattic.f	lattic.f								U
launch.f	launch.f	launch.f	x	C			C			U
Inchdy.f	Inchdy.f	Inchdy.f				N				S
Inchn6.f	Inchn6.f	Inchn6.f		C			C			S
lokdtb.f	lokdtb.f	lokdtb.f				N				S
loksdc.f	loksdc.f	loksdc.f				N				S
loktrk.f	loktrk.f	loktrk.f				N		C		U
loslim.f	loslim.f	loslim.f	*		C					U
	manrni.f	manrni.f								U
	manrnu.f	manrnu.f						C		U
mar.f	mar.f	mar.f				N				U
marini.f	marini.f	marini.f				N				U
mfprd.f	mfprd.f	mfprd.f			C					U
mgtovo.f	mgtovo.f	mgtovo.f	*		C		C			U
	miserr.f	miserr.f								U
misil.f	misil.f	misil.f				N				U
mispos.f										
misrol.f										
missd.f	missd.f	missd.f				N				U
	misxxx.f	misxxx.f	x							U
misvel.f										
mltrsp.f	mltrsp.f	mltrsp.f	*		C			C		U
modset.f	modset.f	modset.f		C			C			U
	movshl.f	movshl.f								U
mskalt.f	mskalt.f	mskalt.f	*			N				U
mslfp.f	mslfp.f	mslfp.f				N				U
mstat3.f	mstat3.f	mstat3.f	*			N				U
mtiaex.f	mtiaex.f	mtiaex.f	x			N				U
mtirex.f	mtirex.f	mtirex.f				N				U
mtirng.f	mtirng.f	mtirng.f	x			N				U
	mtismp.f	mtismp.f						C		U
multin.f	multin.f	multin.f	*	C			C			U
multip.f	multip.f	multip.f	*	C			C	C		U
namfnd.f	namfnd.f	namfnd.f		C			C			U
nncirc.f	nncirc.f	nncirc.f			C					U
noise.f	noise.f	noise.f	x		C		C			U
ntable.f	ntable.f	ntable.f				N				U
ntlu.f	ntlu.f	ntlu.f				N				U
ntlud.f	ntlud.f	ntlud.f				N				U
optcfz.f	optcfz.f	optcfz.f				N				S
optexc.f	optexc.f	optexc.f				N				S
optics.f	optics.f	optics.f				N				S

# DRAFT

**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
optini.f	optini.f	optini.f			N					S
opttri.f	opttri.f	opttri.f	C			C				U
opttrk.f	opttrk.f	opttrk.f	C			C				U
	parea.f	parea.f	x							S
pcomp.f	pcomp.f	pcomp.f	C				C			U
pedsvo.f	pedsvo.f	pedsvo.f			N					S
pelpos.f	pelpos.f	pelpos.f			N					U
pfogc.f	pfogc.f	pfogc.f			N					U
phaser.f	phaser.f	phaser.f		C						U
phdel.f	phdel.f	phdel.f			N					U
pilot8.f	pilot8.f	pilot8.f	x		N					S
pilota.f	pilota.f	pilota.f	x		N					S
pilotb.f	pilotb.f	pilotb.f	*		N					S
pilotc.f	pilotc.f	pilotc.f			N					S
pilotd.f	pilotd.f	pilotd.f			N					S
pilotg.f										
pilotj.f	pilotj.f	pilotj.f	x		N					S
pilotk.f	pilotk.f	pilotk.f	x		N					S
pilotp.f	pilotp.f	pilotp.f			N					S
pilotw.f	pilotw.f	pilotw.f	C		C					S
piloto.f	piloto.f	piloto.f	C		C					S
	pilt19.f	pilt19.f								S
piltih.f										
	piltn1.f	piltn1.f	x							S
piltn3.f	piltn3.f	piltn3.f			N					S
piltn4.f	piltn4.f	piltn4.f		C						S
piltn6.f	piltn6.f	piltn6.f			N					S
	piltn7.f	piltn7.f								S
pk726.f	pk726.f	pk726.f			N					U
pkend.f	pkend.f	pkend.f			N					U
pkill.f	pkill.f	pkill.f	C			C				U
plymlt.f	plymlt.f	plymlt.f	C			C				U
prepro.f	prepro.f	prepro.f	C			C	C			U
buildf	buildf	buildf								
copyf	copyf	copyf								
create	create	create								
fmtdbl	fmtdbl	fmtdbl								
fmtfp	fmtfp	fmtfp								
fmtgtv	fmtgtv	fmtgtv								
fmtrcs	fmtrcs	fmtrcs								
fmtpl	fmtpl	fmtpl								
hdrwr	hdrwr	hdrwr								
ipfmt	ipfmt	ipfmt								
lfile	lfile	lfile								
prepch	prepch	prepch								

# DRAFT

TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
prepip	prepip	prepip								
printf	printf	printf								
tzfmt	tzfmt	tzfmt								
tztgtv	tztgtv	tztgtv								
updatf	updatf	updatf								
writef	writef	writef								
prevnt.f	prevnt.f	prevnt.f	C			C				U
prfskr.f	prfskr.f	prfskr.f	C							U
prftrk.f	prftrk.f	prftrk.f	C							U
prinit.f	prinit.f	prinit.f	C							U
prname.f	prname.f	prname.f			N					U
	prntiv.f	prntiv.f								U
prntm.f	prntm.f	prntm.f	C			C				U
prntrv.f	prntrv.f	prntrv.f	C			C				U
progi.f	progi.f	progi.f	C			C				U
prop14.f	prop14.f	prop14.f			N					S
prop15.f	prop15.f	prop15.f			N					S
prop16.f	prop16.f	prop16.f	*		N					S
prop18.f	prop18.f	prop18.f	x		N					S
propla.f	propla.f	propla.f			N					S
prop1d.f	prop1d.f	prop1d.f			N					S
propul.f	propul.f	propul.f	*	C		C				S
prpwrr.f	prpwrr.f	prpwrr.f	C			C	C	C		U
prsam.f	prsam.f	prsam.f	C		C					U
	prsam3.f	prsam3.f	x							U
prsami.f	prsami.f	prsami.f			N					U
prtion.f	prtion.f	prtion.f	*		N					U
prtz.f	prtz.f	prtz.f			N					U
prtzi.f	prtzi.f	prtzi.f			N					U
putghk.f	putghk.f	putghk.f			N					U
pwrdbm.f	pwrdbm.f	pwrdbm.f		C						S
qkbpri.f										
qkcagn.f										
qkclgen.f										
qkclin.f										
qkclut.f										
qkcpdt.f										
qkcsum.f										
qkctrtr.f										
qkcw.c.f										
qkerr.f										
qkgeom.f										
qkrflg.f										
qkrmin.f										
radar.f	radar.f	radar.f	C			C				U

# DRAFT

**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
radhor.f	radhor.f	radhor.f			N					U
radome.f	radome.f	radome.f	*		N					U
ran.f	ran.f	ran.f		C						U
randmc.f	randmc.f	randmc.f	*	C		C				U
ranmin.f	ranmin.f	ranmin.f	*	C		C				U
rblank.f	rblank.f	rblank.f	x		N		C			S
rblink.f	rblink.f	rblink.f		C		C				U
rchop.f	rchop.f	rchop.f			N			C		S
rcsfz.f	rcsfz.f	rcsfz.f			N					U
rcv2ch.f	rcv2ch.f	rcv2ch.f		C						S
rd2ped.f	rd2ped.f	rd2ped.f			N					S
rderr.f	rderr.f	rderr.f			N					U
rdf.f	rdf.f	rdf.f			N					U
rdotva.f	rdotva.f	rdotva.f			N					U
rdsmf.f	rdsmf.f	rdsmf.f		C						U
rdsmf1.f	rdsmf1.f	rdsmf1.f			N					U
rdtzf.f	rdtzf.f	rdtzf.f			N					U
react.f	react.f	react.f	*	C		C				U
readf.f	readf.f	readf.f			N					U
refsig.f	refsig.f	refsig.f			N					S
reltgt.f	reltgt.f	reltgt.f	*	C		C				U
	relxxx.f	relxxx.f	x							U
reslv2.f	reslv2.f	reslv2.f	*	C		C				U
retfac.f	retfac.f	retfac.f			N					S
rgazgt.f										
rggchk.f	rggchk.f	rggchk.f			N					U
rghf.f	rghf.f	rghf.f			N					U
rghkf.f	rghkf.f	rghkf.f			N					U
rghki.f	rghki.f	rghki.f			N					U
rice.f	rice.f	rice.f	x	C						U
rk4g.f	rk4g.f	rk4g.f	*		N					U
rktrjc.f										
rljust.f	rljust.f	rljust.f			N					U
rminit.f	rminit.f	rminit.f	*	C		C				U
rmtabu.f	rmtabu.f	rmtabu.f	*		N					U
rngdsc.f	rngdsc.f	rngdsc.f	*	C		C		C		U
rngsv1.f	rngsv1.f	rngsv1.f		C						S
rngsva.f	rngsva.f	rngsva.f	*		N					S
rngsvo.f	rngsvo.f	rngsvo.f	*		N					S
rngtri.f	rngtri.f	rngtri.f	*		N					U
rngtrk.f	rngtrk.f	rngtrk.f		C		C				U
rntrk2.f	rntrk2.f	rntrk2.f		C		C				S
rtgchk.f	rtgchk.f	rtgchk.f	x		N					U
	rwunit.f	rwunit.f								U
	safuze.f	safuze.f						C	C	S

# DRAFT

TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
sami.f	sami.f	sami.f	x	C			C			U
sams.f	sams.f	sams.f				N				U
scalc.f	scalc.f	scalc.f				N				U
scalca.f	scalca.f	scalca.f				N				U
scalcc.f	scalcc.f	scalcc.f				N				U
scalcr.f	scalcr.f	scalcr.f		C						U
scalcu.f	scalcu.f	scalcu.f				N				U
scangl.f	scangl.f	scangl.f				N				U
sccomp.f	sccomp.f	sccomp.f				N				U
scfly.f	scfly.f	scfly.f		C			C			U
scngen.f	scngen.f	scngen.f				N				S
sdcmmod.f	sdcmmod.f	sdcmmod.f		C			C			S
sdope.f	sdope.f	sdope.f		C			C			S
seekon.f	seekon.f	seekon.f		C			C			S
sekerr.f	sekerr.f	sekerr.f				N				U
	setflt.f	setflt.f	x							U
ships.f	ships.f	ships.f		C			C			U
	shoot.f	shoot.f	x							U
sigma0.f	sigma0.f	sigma0.f	*			N				U
sinc.f	sinc.f	sinc.f				N				U
sintl8.f	sintl8.f	sintl8.f	*			N				U
sitei.f	sitei.f	sitei.f				N				U
	sitxxx.f	sitxxx.f	x							U
sitpos.f										
sitvel.f										
skclut.f	skclut.f	skclut.f			C					U
skipf.f	skipf.f	skipf.f				N				U
sknsig.f	sknsig.f	sknsig.f		C			C			U
skr2b.f	skr2b.f	skr2b.f				N				U
skrang.f	skrang.f	skrang.f				N				U
skrccv.f	skrccv.f	skrccv.f		C			C			S
skrcpi.f	skrcpi.f	skrcpi.f		C			C	C		S
skrgrp.f	skrgrp.f	skrgrp.f		C			C			S
skrini.f	skrini.f	skrini.f		C			C			S
skrrbe.f	skrrbe.f	skrrbe.f		C			C	C		U
skrseq.f	skrseq.f	skrseq.f		C			C			S
sksig0.f	sksig0.f	sksig0.f	*			N				U
snrgm.f	snrgm.f	snrgm.f				N				U
ssimvi.f	ssimvi.f	ssimvi.f	*			N				U
statac.f	statac.f	statac.f		C			C			U
stats.f	stats.f	stats.f		C			C			U
stgain.f	stgain.f	stgain.f				N				S
stvel.f	stvel.f	stvel.f				N				U
sumclt.f	sumclt.f	sumclt.f	*		C					U
sumdif.f	sumdif.f	sumdif.f		C			C			U

# DRAFT

**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
sumerr.f	sumerr.f	sumerr.f			N					U
sumfly.f	sumfly.f	sumfly.f	C			C				U
summc.f	summc.f	summc.f			N					U
summry.f	summry.f	summry.f	C							U
summsg.f	summsg.f	summsg.f	C			C				U
sumnof.f	sumnof.f	sumnof.f	C			C				U
sumrun.f	sumrun.f	sumrun.f			N					U
	sumsig.f	sumsig.f					C			U
sumsit.f	sumsit.f	sumsit.f	C			C	C			U
surged.f	surged.f	surged.f	C			C				S
surgei.f	surgei.f	surgei.f	C			C				S
svoaz.f	svoaz.f	svoaz.f	*		N					S
	svoaz5.f	svoaz5.f								S
svoaza.f	svoaza.f	svoaza.f			N					S
svoazb.f	svoazb.f	svoazb.f	C			C				S
svoazb5.f										
svoazc.f	svoazc.f	svoazc.f	C			C				S
svocof.f	svocof.f	svocof.f			N					S
svodop.f	svodop.f	svodop.f			N					U
svoel.f	svoel.f	svoel.f	*		N					S
	svoel5.f	svoel5.f	x							S
svoela.f	svoela.f	svoela.f			N					S
svoelb.f	svoelb.f	svoelb.f	C			C				S
svoelb5.f										
svoelc.f	svoelc.f	svoelc.f	x	C		C				S
svoexc.f	svoexc.f	svoexc.f			C		C			U
svorng.f	svorng.f	svorng.f			C					U
svorsa.f	svorsa.f	svorsa.f			N					S
taero.f	taero.f	taero.f	*		N					U
taero1.f	taero1.f	taero1.f	*	C		C				U
taero2.f	taero2.f	taero2.f	*	C		C				U
taerop.f	taerop.f	taerop.f		C		C				U
tarexc.f	tarexc.f	tarexc.f	*	C		C				U
targen.f	targen.f	targen.f	*		C					U
target.f	target.f	target.f	*		N					U
tddply.f	tddply.f	tddply.f		C						U
tdexc.f	tdexc.f	tdexc.f		C						U
tdini.f	tdini.f	tdini.f	*		N					U
tdpos.f	tdpos.f	tdpos.f	*		N					U
tdroll.f	tdroll.f	tdroll.f	*		N					U
tdvel.f	tdvel.f	tdvel.f	*		N					U
terini.f	terini.f	terini.f	x		N					U
tgti.f	tgti.f	tgti.f		C		C				U
tgtpos.f										
tgtpsd.f										

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
tgtcrs.f	tgtcrs.f	tgtcrs.f	*	C			C			U
tgtrol.f										
tgttl.u.f	tgtlu.f	tgtlu.f	*			N				U
	tgtxxx.f	tgtxxx.f	x							U
tgtvel.f										
timtrk.f	timtrk.f	timtrk.f				N				U
	tl2lim.f	tl2lim.f	x							U
tl3lim.f	tl3lim.f	tl3lim.f	x			N			C	U
tlu.f	tlu.f	tlu.f				N				U
	tlu1s.f	tlu1s.f								U
tlu2.f	tlu2.f	tlu2.f			C					U
tlu3.f	tlu3.f	tlu3.f			C					U
tluerr.f	tluerr.f	tluerr.f		C			C			U
tlurpt.f	tlurpt.f	tlurpt.f				N				U
tparm.f	tparm.f	tparm.f				N				S
tran1s.f	tran1s.f	tran1s.f	*			N				U
	trichk.f	trichk.f								U
	trimsg.f	trimsg.f							C	U
trintg.f	trintg.f	trintg.f				N				U
trkest.f	trkest.f	trkest.f				N				U
	trkxxx.f	trkxxx.f	x							U
trngtl.f	trngtl.f	trngtl.f				N				S
tunit.f	tunit.f	tunit.f				N				U
twrsvo.f	twrsvo.f	twrsvo.f				N				S
twsexc.f	twsexc.f	twsexc.f		C			C	C	C	U
twsync.f	twsync.f	twsync.f		C						U
typfil.f	typfil.f	typfil.f		C						U
tzblst.f	tzblst.f	tzblst.f				N				U
tzdbl.f	tzdbl.f	tzdbl.f				N				U
tzfp.f	tzfp.f	tzfp.f				N				U
tzglit.f	tzglit.f	tzglit.f				N				U
tzrcs.f	tzrcs.f	tzrcs.f			C					U
tztpl.f	tztpl.f	tztpl.f				N				U
tztplv.f	tztplv.f	tztplv.f			C					U
tzvcom.f	tzvcom.f	tzvcom.f		C			C			U
tzvul.f	tzvul.f	tzvul.f				N				U
uninit.f										
uniran.f	uniran.f	uniran.f		C			C			U
upd8ag.f	upd8ag.f	upd8ag.f		C			C			U
upd8dg.f	upd8dg.f	upd8dg.f				N				U
upd8rg.f	upd8rg.f	upd8rg.f			C					U
update.f	update.f	update.f	x			N				U
uplink.f	uplink.f	uplink.f	*	C			C			S
uplnk6.f	uplnk6.f	uplnk6.f				N				S
vcos.f	vcos.f	vcos.f	x			N				U

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**TABLE D-1.** Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
vcro.f	vcro.f	vcro.f			N					U
vdif.f	vdif.f	vdif.f			N					U
vdot.f	vdot.f	vdot.f	x		N					U
vehtrf.f	vehtrf.f	vehtrf.f			N					U
velstm.f	velstm.f	velstm.f		C						U
vercos.f	vercos.f	vercos.f	*		N					U
vizabl.f	vizabl.f	vizabl.f			N		C			U
vizone.f	vizone.f	vizone.f			N					U
vlc1.f	vlc1.f	vlc1.f			N					U
vlc2.f	vlc2.f	vlc2.f			N					U
vlc3.f	vlc3.f	vlc3.f			N					U
vmag.f	vmag.f	vmag.f			N					U
vnor.f	vnor.f	vnor.f			N					U
vper.f	vper.f	vper.f			N					U
vstate.f	vstate.f	vstate.f	*		N					S
vzer.f	vzer.f	vzer.f			N					U
wfacen.f	wfacen.f	wfacen.f			N					U
wfadet.f	wfadet.f	wfadet.f	x	C			C			U
wfadp.f	wfadp.f	wfadp.f			C					U
wfadrz.f	wfadrz.f	wfadrz.f			C					U
wfadt2.f	wfadt2.f	wfadt2.f	x	C						U
wfagrp.f	wfagrp.f	wfagrp.f	x	C						U
wfaini.f	wfaini.f	wfaini.f		C						U
wfalon.f	wfalon.f	wfalon.f		C						U
wfamd2.f	wfamd2.f	wfamd2.f	x		N					S
wfamd3.f	wfamd3.f	wfamd3.f	x	C		C				S
wfamd4.f	wfamd4.f	wfamd4.f		C						S
wfamd5.f	wfamd5.f	wfamd5.f			N					S
wfamd6.f	wfamd6.f	wfamd6.f		C						S
wfapdt.f	wfapdt.f	wfapdt.f		C		C	C	C		U
wfarrz.f	wfarrz.f	wfarrz.f	x	C						U
wfarsl.f	wfarsl.f	wfarsl.f	x		N					U
wfaseq.f	wfaseq.f	wfaseq.f		C				C		U
wfaset.f	wfaset.f	wfaset.f		C			C	C		U
wfcfar.f	wfcfar.f	wfcfar.f			N					U
wfcpis.f	wfcpis.f	wfcpis.f		C						U
wfinit.f	wfinit.f	wfinit.f			N					U
wfpric.f	wfpric.f	wfpric.f			N					S
wfscpi.f	wfscpi.f	wfscpi.f			N					U
wfsgrp.f	wfsgrp.f	wfsgrp.f		C		C				U
wfsseq.f	wfsseq.f	wfsseq.f		C		C				U
wfsync.f	wfsync.f	wfsync.f	x	C		C				U
wftccm.f	wftccm.f	wftccm.f		C		C				S
wftcpi.f	wftcpi.f	wftcpi.f	x	C		C	C	C		S
wftgrp.f	wftgrp.f	wftgrp.f		C		C				S

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TABLE D-1. Source Code Module Summary. (Contd.)

esams2.6.3	esams2.7b	esams2.7	code changes 2.6.3 vs 2.7b				code changes 2.7b vs 2.7			
			major	minor	none	comnt	major	minor	comnt	unclas/ secret
wftini.f	wftini.f	wftini.f	C			C				S
wftpri.f	wftpri.f	wftpri.f		C		C				S
wftseq.f	wftseq.f	wftseq.f			N					S
wfxtra.f	wfxtra.f	wfxtra.f			N					S
xirnse.f	xirnse.f	xirnse.f			N					U
zfilt.f	zfilt.f	zfilt.f		C		C				U
zfuncs.f	zfuncs.f	zfuncs.f	C			C				U
zinger.f	zinger.f	zinger.f		C					C	U
zroots.f	zroots.f	zroots.f	x	C		C	C		C	U